



SLOVENSKI STANDARD
SIST EN 3459:2010

01-junij-2010

Aeronavtika - Titanova zlitina TI-P63001 (Ti-4Al-4Mo-2Sn) - Žarjena v topilu in starana - Plošča - $6 \text{ mm} < a \leq 50 \text{ mm}$

Aerospace series - Titanium alloy TI-P63001 (Ti-4Al-4Mo-2Sn) - Solution treated and aged - Plate - $6 \text{ mm} < a \leq 50 \text{ mm}$

Luft- und Raumfahrt - Titanlegierung TI-P63001 (Ti-4Al-4Mo-2Sn) - Lösungsgeglüht und ausgelagert - Platten - $6 \text{ mm} < a \leq 50 \text{ mm}$

Série aérospatiale - Alliage de titane TI-P63001 (Ti-4Al-4Mo-2Sn) - Mis en solution et revenu - Plaques - $6 \text{ mm} < a \leq 50 \text{ mm}$

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Ta slovenski standard je istoveten z: EN 3459:2010

ICS:

49.025.30 Titan Titanium

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EUROPEAN STANDARD

EN 3459

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2010

ICS 49.025.30

English Version

Aerospace series - Titanium alloy TI-P63001 (Ti-4Al-4Mo-2Sn) - Solution treated and aged - Plate - 6 mm < a ≤ 50 mm

Série aérospatiale - Alliage de titane TI-P63001 (Ti-4Al-4Mo-2Sn) - Mis en solution et revenu - Plaques - 6 mm < a ≤ 50 mm

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This European Standard was approved by CEN on 16 January 2010.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 3459:2010) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2010, and conflicting national standards shall be withdrawn at the latest by October 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 3459:2010 (E)

Introduction

This standard is part of the series of EN metallic material standards for aerospace applications. The general organization of this series is described in EN 4258.

This standard has been prepared in accordance with EN 4500-4.

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1 Scope

This standard specifies the requirements relating to:

Titanium alloy TI-P63001 (Ti-4Al-4Mo-2Sn)
Solution treated and aged
Plate
6 mm < a ≤ 50 mm

for aerospace applications.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2043, *Aerospace series — Metallic materials — General requirements for semi-finished product qualification (excluding forgings and castings)*

EN 3114-003, *Aerospace series — Test method — Microstructure of ($\alpha + \beta$) titanium alloy wrought products — Part 003: Microstructure of plate*

EN 4050-1, *Aerospace series — Test method for metallic materials — Ultrasonic inspection of bars, plates, forging stock and forgings — Part 1: General requirements*

EN 4050-4, *Aerospace series — Test method for metallic materials — Ultrasonic inspection of bars, plates, forging stock and forgings — Part 4: Acceptance criteria*

EN 4258, *Aerospace series — Metallic materials — General organization of standardization — Links between types of EN standards and their use*

EN 4500-4, *Aerospace series — Metallic materials — Rules for drafting and presentation of material standards — Part 4: Specific rules for titanium and titanium alloys*

EN 4800-001, *Aerospace series — Titanium and titanium alloys — Technical specification — Part 001: Plate, sheet and strip*

EN 3459:2010 (E)

1	Material designation		Titanium alloy TI-P63001 (Ti-4Al-4Mo-2Sn)											
2	Chemical composition %	Element	Al	Mo	Si	Sn	O	N	H	C	Fe	Others 1)		Ti
		min.	3,0	3,0	0,3	1,5	–	–	–	–	–	–	–	Base
		max.	5,0	5,0	0,7	2,5	0,25	0,03	0,0125	0,08	0,20	0,10	0,40	
3	Method of melting		See EN 4800-001											
4.1	Form		Plate											
4.2	Method of production		Wrought											
4.3	Limit dimension(s)	mm	$6 < a \leq 50$											
5	Technical specification		EN 4800-001											

6.1	Delivery condition		Solution treated and aged										
	Heat treatment		900 °C ± 10 °C/t ≥ 20 min/AC + 500 °C ± 10 °C/t = 24 h/AC										
6.2	Delivery condition code		U										
7	Use condition		Delivery condition										
	Heat treatment												

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SIST EN 3459:2010 Characteristics

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8.1	Test sample(s)		EN 4800-001										
8.2	Test piece(s)		EN 4800-001										
8.3	Heat treatment		Delivery condition										
9	Dimensions concerned	mm	$6 < a \leq 40$				$40 < a \leq 50$						
10	Thickness of cladding on each face	%	–										
11	Direction of test piece		L	LT	L	LT	ST						
12	Temperature	θ	°C		Ambient								
13	Proof stress	$R_{p0,2}$	MPa	≥ 900	≥ 920	≥ 900	≥ 920	≥ 900					
14	Tensile strength	R_m	MPa	$1\ 030 \leq R_m \leq 1\ 220$	$1\ 030 \leq R_m \leq 1\ 220$	$1\ 030 \leq R_m \leq 1\ 220$	$1\ 030 \leq R_m \leq 1\ 220$	$1\ 030 \leq R_m \leq 1\ 220$					
15	Elongation	A	%	≥ 9	≥ 9	≥ 9	≥ 9	≥ 7					
16	Reduction of area	Z	%	≥ 20	≥ 20	≥ 20	≥ 20	≥ 20					
17	Hardness		–										
18	Shear strength	R_c	MPa	–									
19	Bending	k	–	–									
20	Impact strength		–										
21	Temperature	θ	°C		–								
22	Time		h	–									
23	Stress	σ_a	MPa	–									